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10/519,015	12/21/2004	Pascal Leclerc	034299-613	7248
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Robert E Krebs		SONG, SARAH U		
Thelen Krebs & Priest		ART UNIT		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,015

Applicant(s)

LECLERC ET AL.

Examiner

Sarah Song

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. Applicant's communication filed on October 9, 2007 has been carefully considered and placed of record in the file. Claims 1-22 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 2, 5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Huber (DE 199 58 547 A1 previously relied upon).**

4. Regarding claims 1, 2, 5 and 13, Huber discloses a device for automatically centering a laser beam in a light guide, the device comprising a roughened end surface. Huber also discloses that the roughened end surface may be replaced by a volume scatterer 2 having an entry face 5 in the waveguide. See Abstract. The volume scatterer is cylindrical ("fiber cross-section) and comprises a light reflector (i.e. cladding layer, column 1, lines 51-54) surrounding a side face.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3, 7, 9, 11, 15, 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber.**

7. Regarding claims 19 and 20, Huber does not expressly disclose the volume scatterer to be made from a material having an absorption coefficient that is as small as possible. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the volume scatterer of a material having a minimal absorption coefficient for the purpose of minimizing attenuation through the volume scatterer.

8. Regarding claims 3, 11, 21 and 22, Huber discloses the claimed invention but does not expressly disclose the thickness of the volume scatterer is equal to at least 100 times the wavelength. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the appropriate thickness of the volume scatterer since it has been held that where the general conditions of a claim are disclosed by the prior art, discovering optimum or workable values involves only routine skill in the art.

9. Regarding claims 7, 9, 15 and 17, Huber does not expressly disclose a defocusing lens on an entry face, a reflector protruding beyond an entry face, or an auxiliary fiber placed on the entry face of the volume scatterer. However, defocusing lenses (e.g. collimators) are well known in the art for improving optical coupling characteristics. Additionally, GRIN fiber collimators are known in the art as auxiliary fibers for improving input coupling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a defocusing lens or an auxiliary fiber such as a GRIN fiber lens on the entry face to optimize optical coupling characteristics.

10. **Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber as applied to claim 1 or 2 as applicable above, and further in view of Müller et al. (U.S. Patent 5,401,270 previously relied upon).**

11. Regarding claims 4 and 12, Huber discloses the claimed invention including a polymer waveguide (column 2, line 66) but does not expressly disclose a polytetrafluoroethylene volume scatterer.

12. Müller et al. discloses a polytetrafluoroethylene volume scatterer.

13. Müller et al. is analogous art as pertaining to volume scatterers.

14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a polytetrafluoroethylene volume scatterer in the device of Huber.

15. One of ordinary skill in the art would have been motivated to make the modification in order to provide a cost effective device.

16. **Claims 6, 8, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber as applied to claim 1 or 2 as applicable above, and further in view of Horie et al. (JP 05-113527 previously relied upon).**

17. Regarding claims 6, 8, 14 and 16, Huber does not expressly disclose a reflector that surrounds the side face and is prolonged beyond the entry face.

18. Horie et al. discloses a volume scatterer 13 comprising a side face that is surrounded by a reflector 9 and is prolonged beyond the entry face. See Figure 1 and ¶13.

19. Horie et al. is analogous art as pertaining to volume scatterers.

20. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a reflective coating in the device of Huber.

21. One of ordinary skill in the art would have been motivated to make the modification in order to mitigate losses through the side surface and to provide a coupling means with a light source as shown by Horie et al.

Allowable Subject Matter

22. Claims 10 and 18 are allowed.

23. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest, either alone or in combination, the method of manufacturing the device in which a tubular light guide is used as a cutting punch.

Response to Arguments

24. Applicant's arguments filed October 9, 2007 have been fully considered but they are not persuasive. Applicant states that the present invention distinguishes over the prior art by using a volume scatterer, namely a homogeneous material in which light scattering takes place at any point of the volume according to laws of radiation transfer of a physical model which is described in the present application. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a homogeneous material in which light scattering takes place at any point of the volume according to laws of radiation transfer of a physical model) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The scatterer of Huber meets the limitation of volume scatterer as claimed, as the abstract clearly discloses the scatterer as comprising, "scattering centers uniformly distributed in the volume of the first waveguide".

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Song/
Sarah Song
Primary Examiner
Art Unit 2874